23 January 1968

Dear Ed:

Our friends at 213 had certain comments and/or suggestions concerning the BIMAT. These you forwarded here by Nbr. 6519. While I expect to discuss with you in detail, I thought you might like a short paper for the file and to refresh your memory.

1. "Bimat (film positive) was cover-sheeted to protect emulsion from abrasion". The real reason is that the Bimat is sticky and full of chemical salts. This cover sheet is the fastest way to make it handable and slow down deterioration.

2. Resolution checks consistently showed aft (Versamat processed) camera film to be better than forward (Bimat processed). This was in spite of changes in sun angle. I have no explanation unless the aft camera does have a better lens. I assure you that the Bimat processed films will have equal or better resolution than conventionally processed films if exposure and photographic speed of the process are comparable.

3. They comment quite correctly on the progressive deterioration of the cover-sheeted Bimat positive. However, it will last a week plus or minus, depending on storage conditions. To me, the logical use for this film is for determination of mission track, target coverage, cloud cover and camera operation. Not knowing specifically how detailed an IPIR is, I don't know whether it is good enough. But you can have a very high quality Drimat positive only minutes later.

4. "The Drimat reproductions are somewhat denser than the conventional reproductions and retain approximately the same resolution but appear to have less tonal variation". The comment on density is correct and is our fault. We could have printed them lighter. The "less tonal variation" can certainly be a correct comment because the toe of the Drimat curve is higher than that of conventionally processed film. In many scenes, it will never be noticed and, in most cases, should not affect interpretation.

5. "Bimat processed reproductions are not as dense as Drimat but denser than conventional reproductions". Again, I believe this is due to printing levels and can be corrected with experience. This is a new product to us and we have a learning curve.

6. "Bimat (cover-sheeted) and Drimat reproductions were received on plastic, camera type, takeup cores not compatible with evaluation or exploitation equipment". Clearly our goof. Our kluged-up equipment did not lend itself to good tracking when laminating. This would improve on better equipment. However, the more I think about it the better I like the idea of putting this stuff on paper cores and supplying spool end type adaptors. Remember, in all cases, we are talking about "temporary film" to be saved for periods up to a few months. On paper cores, the disposal problem would be simple - throw everything in the incinerator or chopper without the labor of removing from spools.

7. "Bimat and Drimat material adheres to the light table and must be lifted away before winding". While it wasn't evident before, this is a state-of-the-art situation and can and is being corrected. This is really a multi-faceted problem, so bear with me. Today's camera films have the antihalation dye in the back (pelloid). So the Bimat material is coated both sides and the back is used to soak out the dye from the adjacent convolution. We are working to put the dye on the front side (in fact, we have a film to replace 3400 and 3401). Thus, we could use a Bimat coated one side only. In the meantime, we will continue experiments. It is possible all that is needed is to dry the back side of the Bimat film during one of the operations.

The Drimat is coated one side only. I ascribe any stickiness here to the aforementioned misalignment and to the possibility of a few salts transferring to the back side of the Drimat when it was rolled during manufacture. Again, I think drying is the answer.

8. "Can the Bimat reproductions be used to adequately ..... IPIR." Depends on IPIR requirements and on what film we are discussing. The Bimat positive (the one used to develop the negative) does have lower resolution. As mentioned before, it is very useful for mission track, cloud cover, target coverage and camera operation. You can have a DRIMAT positive minutes later and this is as good as anything you can get.

9. "Are the Bimat reproductions sufficiently stable for mensuration". For the Bimat positive, the answer is clearly no. The reason the resolution is low is the image does slip. We do not see why Drimat positives

should distort any more than conventional positives, because the printer causes most of this. In any event, perhaps the Drimat would have more consistent distortions than conventional processing, because the rest of the operations are more controllable than those of wet developing and heat drying. We will run some tests and compare distortions.

10. "Can Bimat reproductions be used to make dupe negatives for briefing boards". The Bimat positive probably is too low in resolution but 213 would never see this. The answer is yes. We can produce a DN by Bimat/Drimat means that will be entirely suitable for briefing board use.

ELG:atr

E. L. G.